Conjugates obtained by reductive amination of the pneumococcus serotype 5 capsular polysaccharide

ABSTRACT

Applicant: Aventis Pasteur

The invention relates to conjugates derived from the reductive amination of the pneumococcus serotype 5 capsular polysaccharide. The conditions for reductive amination differ from conventional conditions in that they make it possible to avoid the appearance of an undesirable compound which harms the immunogenicity of the conjugates. In carbon NMR spectrum, this undesirable compound is characterized by a resonance signal between 13 and 14 ppm. The aminated polysaccharides used to produce the conjugates therefore have a carbon NMR spectrum lacking a resonance signal between 13 and 14 ppm. The invention offers two conditions for reductive amination. According to a first method, the reductive amination is carried out at a slightly acidic pH (4-6.5) for at the very most 4 hours. According to a second method, the polysaccharide is first of all reduced, then fragmented and, finally, subjected to a reductive amination per se, under conditions which may or may not be conventional. Depending on the method used, the structure of the aminated polysaccharide may vary (conversion or not of the Sug residue of the repeating unit to N-acetylated quinovosamine and to N-acetylated fucosamine); however, these variations, as recorded in carbon NMR spectrometry, have no effect on the immunogenicity.